

Description

- High frequency low noise amplifier application
- VHF band amplifier application

Features

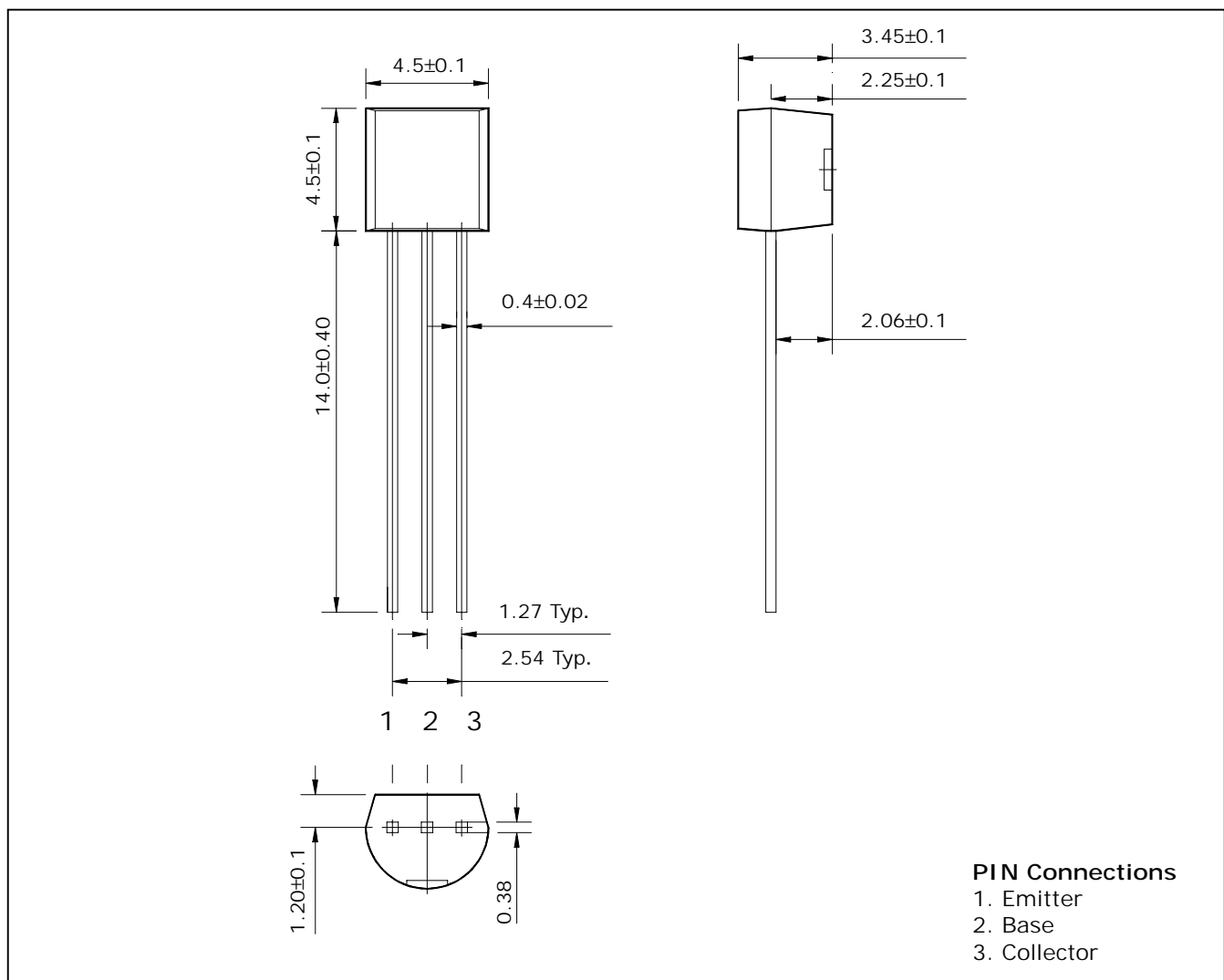
- Low noise figure : $NF = 4dB(Max.)$ at $f=100MHz$
- High transition frequency $f_T = 800MHz(Typ.)$

Ordering Information

Type NO.	Marking	Package Code
STS9018	STS9018	TO-92

Outline Dimensions

unit : mm



Absolute maximum ratings

Ta=25°C

Characteristic	Symbol	Ratings	Unit
Collector-Base voltage	V_{CBO}	40	V
Collector-Emitter voltage	V_{CEO}	30	V
Emitter-Base voltage	V_{EBO}	4	V
Collector current	I_C	20	mA
Emitter current	I_E	-20	mA
Collector dissipation	P_C	625	mW
Junction temperature	T_J	150	°C
Storage temperature range	T_{stg}	-55~150	°C

Electrical Characteristics

Ta=25°C

Characteristic	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Collector cut-off current	I_{CBO}	$V_{CB}=40V, I_E=0$	-	-	0.1	μA
Emitter cut-off current	I_{EBO}	$V_{EB}=4V, I_C=0$	-	-	0.1	μA
DC current gain	h_{FE}^*	$V_{CE}=5V, I_C=1mA$	54	-	198	-
Transistor frequency	f_T	$V_{CE}=10V, I_E=-8mA$	500	800	-	MHz
Noise figure	NF	$V_{CB}=6V, I_E=-1mA, f=100MHz$	-	-	4	dB
Power gain	G_{PE}		15	-	-	

* : h_{FE} rank / F : 54~80, G : 70~108, H : 97~146, I : 132~198.

Electrical Characteristic Curves

Fig. 1 $P_C - T_a$

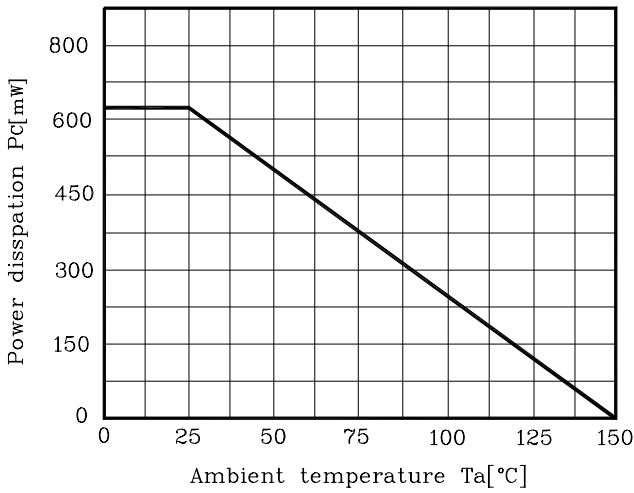


Fig. 2 $I_C - V_{CE}$

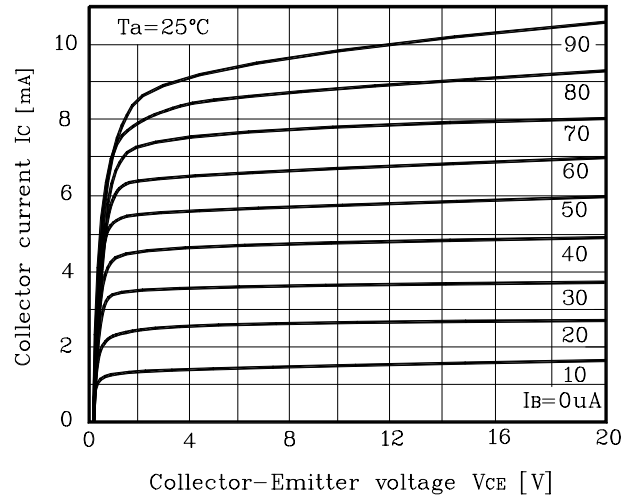


Fig. 3 $h_{FE} - I_C$

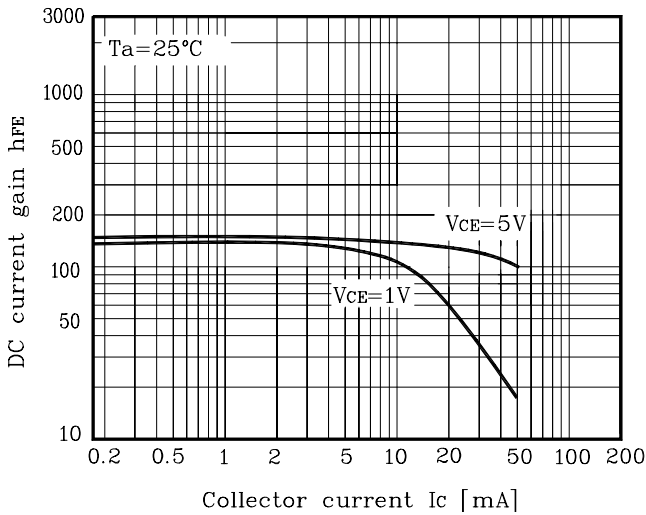


Fig. 4 $f_T - I_E$

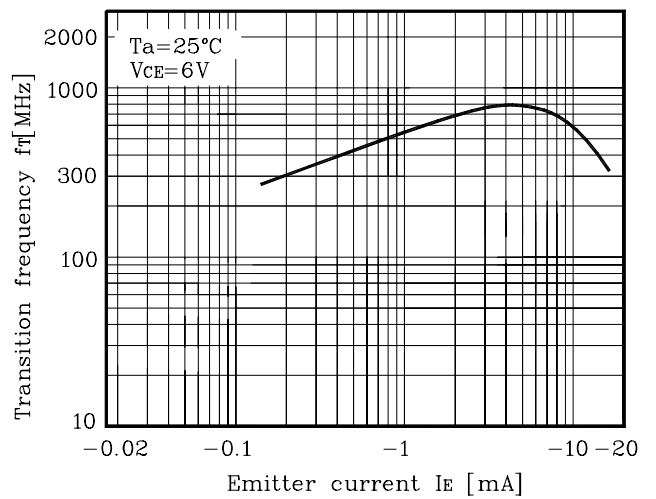


Fig. 5 $C_{ob} - V_{CB}, C_{ib} - V_{EB}$

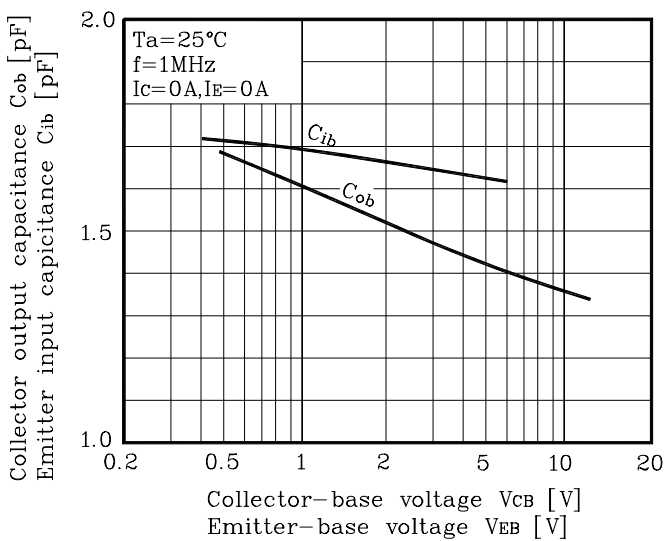
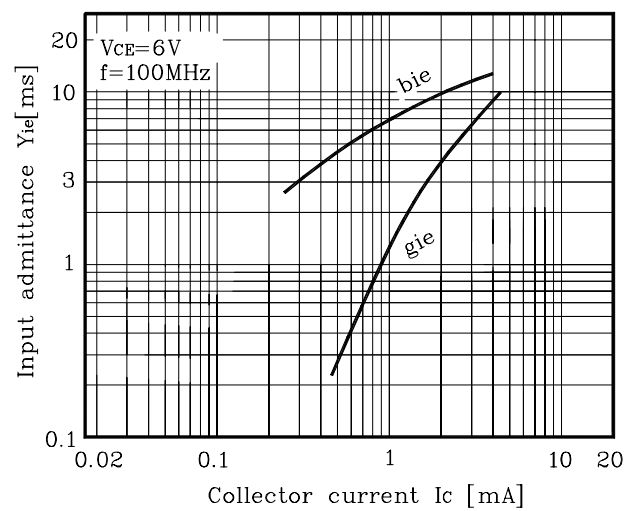


Fig. 6 $Y_{ie} - I_C$



Electrical Characteristic Curves

Fig. 7 I_C - Y_{oe}

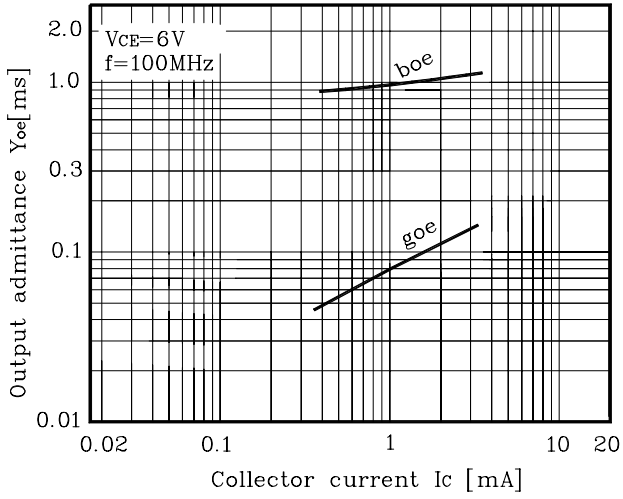


Fig. 8 I_C - Y_{fe}

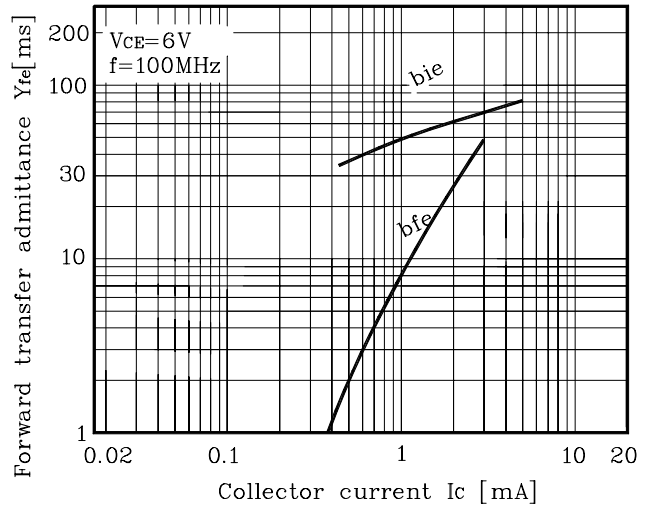


Fig. 9 I_C - Y_{re}

